

## Kansas Department of Transportation HDPE Pipe Specification

This is a request for high density polyethylene (HDPE) pipe per the following specifications in the below stated sizes, length, and shapes.

All pipes will be delivered to:

KDOT Area Six Office  
1290 S. Enterprise  
Olathe, KS 66061-5355

For further information contact either **Drake Jennings** at (913) 764-0987 or cell (816) 835-7383 or **Gary Moulin** at (785) 528-3128 or cell (785) 640-2048.

Pipe:

One - 30" round 96' length

One - 35" x 45" elliptical 85' length

One - 30.5" x 39" elliptical 83' length

KANSAS  
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION  
FOR  
**HDPE CULVERT LINERS**  
1 of 2

1. **Description.** This item shall govern for furnishing and providing all material necessary to rehabilitate existing culvert pipe by slip lining an existing pipe with high density polyethylene (HDPE) pipe. The pipes shall be sizes, types, design and dimensions as shown shall include all connections, joints, and other appurtenances as required to complete the work.
2. **Materials.** Unless otherwise specified herein, culvert pipe renewal shall conform to the following:

*Liner Material – High Density Polyethylene (HDPE) Pipe*

High density polyethylene pipe and fittings shall meet the requirements in the AASHTO **M326-08** Specification.

The liner pipe shall be made of high density polyethylene resins in accordance with the requirements of ASTM D-3350-02. The Cell Classification will be 345464C and shall have the Plastic Pipe Institute designation of PE 3408.

Pipe liner shall be a Dimension Ratio (DR) of 32.5. The pipe shall have a smooth non-corrugated interior and exterior surface.

The liner pipe shall be capable of being joined into continuous lengths by an interlocking method which will allow for pushing or pulling the liner pipe into position. The joints shall not create an increase in the outside diameter of the liner pipe to eliminate any coupling difficulties. The joints must be water-tight with gaskets that are capable of handling pressures up to 25 feet of head per ASTM D-3212. The joining system for the liner pipe shall be round or oval Snap-Tite or approved equal. Each HDPE shall have a male and female end

The supplier shall furnish a manufacturer's certification stating that the material in the pipe meets the requirements of ASTM 3350-02 with a cell classification of PE 345464C with the physical properties indicated above. The supplier shall certify the dimensions meet the requirements of ASTM F 714.

3. **Designation of Type**

- a. The HDPE pipes used for liners in gravity flow culverts shall be solid wall construction with mechanical end connectors, male and female.
- b. Individual liner section lengths shall be a minimum of 6-ft but shall not exceed 50-ft

4. **Pipe Joints** shall comply with ASTM D 3212 Standard Specification for Joint tightness.

5. **Hydraulic flow** characteristics for the liner pipe shall provide a Manning's coefficient of  $n=0.00914$

6. **Pipe Handling** – when handling slip lining pipe, all precautions necessary to avoid damaging the pipe shall be taken. Pipe with cuts greater than 10% of the wall thickness shall be rejected or replaced at the entire expense of the vendor.